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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,941	07/25/2000	Kenichi Ashida	9448-104US(G0187US)	7515

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ONE COMMERCE SQUARE  
2005 MARKET STREET, SUITE 2200  
PHILADELPHIA, PA 19103-7013

EXAMINER
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LEE, TOMMY D

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 02/11/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/624,941

Applicant(s)

ASHIDA ET AL.

Examiner

Thomas D. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-13, 17 and 18 is/are allowed.
- 6) ☒ Claim(s) 1-3, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,220,432 (Roe et al.).

Roe et al. teach an image-writing device for writing an image onto an image-receiving body, the image including data aligned with respect to a screen angle, comprising: a plurality of writing elements for writing the dots (laser 1 (Fig. 1); adapted for use with multi-beam scanners (column 3, lines 17-20)); a memory storing compensation parameters for modifying the dots so that the dots have substantially uniform widths as viewed at the screen angle (map in store 7, arranged into L-shaped block with parameters M and N; dots shaped according to M and N, depending on screen angle (column 4, lines 32-38)). Dimensions for each dot are the same at a particular screen angle, and thus each dot will inherently have the same width as viewed at the screen angle); and a driver for driving the writing elements according to the compensation parameters (clock signal generator 10). Said memory stores at least two different sets of compensation parameters corresponding to different screen angles (separate maps required for each separation (column 4, line 63 – column 5, line 3)).

The image-writing device, for writing an image including dots aligned with respect to

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said screen angle onto an image-receiving body, is provided in an image-forming apparatus (Fig. 1) further comprising: at least one image-receiving body (record medium 4); and a controller for controlling the image-writing device (control device 9).

3. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,436,644 (Motoi et al.).

Motoi et al. teach a method of controlling an image-writing device having a plurality of light-emitting elements (semiconductor laser 431 (array with plural lasers 431a-431c (column 23, lines 58-62)) for writing an electrostatic image onto a photosensitive body (photoreceptor 401) and a plurality of lenses (f $\theta$  lens 435, cylindrical lens 433, 436) for focusing light emitted by the light-emitting elements onto the photosensitive body, the image including illuminated dots aligned at a certain screen angle (column 23, lines 41-52), comprising the steps of: controlling energy supplied by the light-emitting elements so that the photosensitive body receives approximately identical illumination energy from all of the light-emitting elements (laser beam spot formed for each location, length of which equals "a" in subscanning direction and "b" in scanning direction (column 16, lines 11-31)); and further controlling the energy supplied by the light-emitting elements so that said illuminated dots have approximately equal widths when viewed at the screen angle (all dots are same size and shape, with scan and subscan lengths of "b" and "a", respectively, and thus each dot will inherently have the same width as viewed at a screen angle).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Motoi et al. as applied to claim 14 above, and further in view of Roe et al.

Motoi et al. do not teach the use of different compensation parameters for different screen angles. Roe et al. teach an image-writing device for writing an image onto an image-receiving body, the device including a memory that stores at least two different sets of compensation parameters corresponding to different screen angles (map in store 7, arranged into L-shaped block with parameters M and N; dots shaped according to M and N, depending on screen angle (column 4, lines 32-38); separate maps required for each separation (column 4, line 63 – column 5, line 3)). This teaching allows for simplification of the scanning process by eliminating the change in a position in a map (defining a square region whose sides are not generally parallel or orthogonal to the scanning direction), which is scanned during a single scan line, when a border of the map is reached (column 2, line 2 – column 3, line 11). This would also apply to a map defining an oval region, since an oval does not have sides that are not generally parallel or orthogonal to the scanning direction, either. Therefore, it would have been obvious for one of ordinary skill in the art to modify the teaching of Motoi et al. by

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providing an L-shaped map with different compensation parameters for different screen angles, as taught by Roe et al.

***Allowable Subject Matter***

6. Claims 6-13, 17 and 18 are allowed.

7. Claims 4, 5 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to teach or suggest an image forming apparatus comprising at least two image-writing devices, each with a memory storing different compensation parameters corresponding to different screen angles, as recited in claims 4 and 5; or a memory storing first and second plurality of parameters corresponding to light-emitting elements and lenses, respectively, in combination with a driver for driving the light-emitting elements and lenses according to the first and second parameters, thereby causing dots to have substantially uniform widths as viewed at a screen angle, as recited in claim 6; or a memory storing first and second plurality of parameters corresponding to light-emitting elements and screen angles, respectively, in combination with a driver for driving the light-emitting elements according to the first and second parameters, thereby causing dots to have substantially uniform widths as viewed at a screen angle, as recited in claim 8; or an image-writing device that controls the sizes of dots aligned with respect to a screen angle so that the dots vary in width less when viewed parallel to the screen angle than when viewed in any other direction,

as recited in claim 12; or the step of further controlling energy supplied by light-emitting elements recited in claim 14, including the use of different compensation parameters for different lenses, as recited in claim 16; or storing first and second plurality of parameters, corresponding to respective light-emitting elements and lenses, and combining the first and second plurality to obtain compensation parameters corresponding to respective light-emitting elements, as recited in claim 17.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,055,923 (Kitagawa et al.) discloses a method wherein halftone dots are formed in linear shapes extending in respective prescribed directions.

U.S. Patent 5,359,424 (Kobayashi) discloses an image forming apparatus that forms dots based on first through fourth gamma characteristic conversion functions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (703) 305-4870. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas D. Lee  
Primary Examiner  
Art Unit 2624

tdl  
February 6, 2004